

# McGraw-Hill DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS

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## Fourth Edition

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EDITOR IN CHIEF

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On the cover: Pattern produced from white light by a computer-generated diffraction plate containing 529 square apertures arranged in a 23 x 23 array. (R. B. Hoover, Marshall Space Flight Center)

On the title pages: Aerial photograph of the Sinai Peninsula made by Gemini spacecraft. (NASA)

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#### **McGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS, Fourth Edition**

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- showing a specific end apparatus arranged in a punctate manner and connected with the pressure sense. { 'presh-ər pɔɪnt }
- pressure process** [CHEM ENG] Treatment of timber to prevent decay by forcing a preservative such as creosote and zinc chloride into the cells of the wood. { 'presh-ər prə'ses }
- pressure radius** [PETRO ENG] The effective radius of increased reservoir pressure surrounding a water-injection well. { 'presh-ər ræd-ē-əs }
- pressure rating** [ENG] The operating (allowable) internal pressure of a vessel, tank, or piping used to hold or transport liquids or gases. { 'presh-ər rād-ɪŋ }
- pressure-regulating valve** [ENG] A valve that releases or holds process-system pressure (that is, opens or closes) either by preset spring tension or by actuation by a valve controller to assume any desired position between full open and full closed. { 'presh-ər reg-yə,lād-ɪŋ ,valv }
- pressure regulator** [ENG] Open-close device used on the vent of a closed, gas-pressured system to maintain the system pressure within a specified range. { 'presh-ər 'reg-yə,lād-ər }
- pressure release** [GEOPHYS] The outward-expanding force of pressure which is released within rock masses by unloading, as by erosion of superincumbent rocks or by removal of glacial ice. { 'presh-ər ri,lēs }
- pressure-release jointing** [GEOL] Exfoliation that occurs in once deeply buried rock that erosion has brought nearer the surface, thus releasing its confining pressure. { 'presh-ər ri'lēs ,jɔɪnt-ɪŋ }
- pressure relief** [ENG] A valve or other mechanical device (such as a rupture disk) that eliminates system overpressure by allowing the controlled or emergency escape of liquid or gas from a pressured system. { 'presh-ər ri,lēf }
- pressure relief device** [MECH ENG] 1. In pressure vessels, a device designed to open in a controlled manner to prevent the internal pressure of a component or system from increasing beyond a specified value, that is, a safety valve. 2. A spring-loaded machine part which will yield, or deflect, when a predetermined force is exceeded. { 'presh-ər ri,lēf dɪ,vɪs }
- pressure relief valve** [MECH ENG] A valve which relieves pressure beyond a specified limit and recloses upon return to normal operating conditions. { 'presh-ər ri,lēf ,valv }
- pressure resistance** [FL MECH] In fluid dynamics, a normal stress caused by acceleration of the fluid, which results in a decrease in pressure from the upstream to the downstream side of an object acting perpendicular to the boundary. Also known as pressure drag. { 'presh-ər ri,zɪ'stəns }
- pressure-retaining member** [MECH ENG] That part of a pressure-relieving device loaded by the restrained pressurized fluid. { 'presh-ər ri'tān-ɪŋ ,mem-bər }
- pressure ridge** [GEOL] 1. A seismic feature resulting from transverse pressure and shortening of the land surface. 2. An elongate upward movement of the congealing crust of a lava flow. 3. A ridge of glacier ice. [OCEANOGR] A ridge or wall of hummocks where one ice floe has been pressed against another. { 'presh-ər ,rɪdʒ }
- pressure ring** [MIN ENG] A ring about a large excavated area, evidenced by distortion of the openings near the main excavation. { 'presh-ər ,rɪŋ }
- pressure-rise center** [METEOROL] A point of maximum increase in atmospheric pressure over a specified interval of time; on synoptic charts, a point of maximum positive pressure tendency. Also known as anallobaric center; center of rises; isallobaric high; isallobaric maximum. { 'presh-ər 'rɪz ,sen-tər }
- pressure roll** [ENG] In plastics-extrusion coating, the roll that with the chill roll applies pressure to the substrate and the molten extruded web. { 'presh-ər ,rɒl }
- pressure seal** [ENG] A seal used to make pressure-proof the interface (contacting surfaces) between two parts that have frequent or continual relative rotational or translational motion. { 'presh-ər ,sēl }
- pressure-sensitive adhesive** [MATER] An adhesive that develops maximum bonding power when applied by a light pressure only. { 'presh-ər 'sen-səd-ɪv ad'hē-sɪv }
- pressure shadow** [PETR] In structural petrology, an area adjoining a porphyroblast, characterized by a growth fabric rather than a deformation fabric, as seen in a section perpendicular to the *b* axis of the fabric. Also known as pressure fringe; strain shadow. { 'presh-ər ,shad-ō }
- pressure shift** [SPECT] An increase in the wavelength at which a spectral line has maximum intensity, which takes place when pressure is increased. { 'presh-ər ,ʃɪft }
- pressure solution** [PETR] In a sedimentary rock, solution occurring preferentially at the grain boundary surfaces. Also known as pressolution. { 'presh-ər sə,lū'shən }
- pressure-stabilized** [AERO ENG] Referring to membrane-type structures that require internal pressure for maintenance of a stable structure. { 'presh-ər 'stā-bə,lɪzd }
- pressure still** [CHEM ENG] A continuous-flow, petroleum-refinery still in which heated oil (liquid and vapor) is kept under pressure so that it will crack (decompose into smaller molecules) to produce lower-boiling products (pressure distillate or pressure naphtha). { 'presh-ər ,stɪl }
- pressure storage** [ENG] The storage of a volatile liquid or liquefied gas under pressure to prevent evaporation. { 'presh-ər ,stɔːrɪdʒ }
- pressure suit** [AERO ENG] A garment designed to provide pressure upon the body so that respiratory and circulatory functions may continue normally, or nearly so, under low-pressure conditions such as occur at high altitudes or in space without benefit of a pressurized cabin. { 'presh-ər ,sɪt }
- pressure suppression** See vapor suppression. { 'presh-ər sə,presh-ən }
- pressure surface** See potentiometric surface. { 'presh-ər ,sərfəs }
- pressure-surface map** See potentiometric map. { 'presh-ər 'sərfəs ,map }
- pressure survey** [MIN ENG] A study to determine the pressure distribution or pressure losses along consecutive lengths or sections of a ventilation circuit. [PETRO ENG] The measurement of static bottomhole pressures in an oil field with producing wells shut in for a time interval sufficient for reservoir pressure buildup to stabilize. { 'presh-ər ,sərv-ə }
- pressure switch** [ELEC] A switch that is actuated by a change in pressure of a gas or liquid. { 'presh-ər ,swɪtʃ }
- pressure system** [ENG] Any system of pipes, vessels, tanks, reactors, and other equipment, or interconnections thereof, operating with an internal pressure greater than atmospheric. [METEOROL] An individual cyclonic-scale feature of atmospheric circulation, commonly used to denote either a high or a low, less frequently a ridge or a trough. { 'presh-ər ,sɪstəm }
- pressure tank** [CHEM ENG] A pressurized tank into which timber is inserted for impregnation with preservative. [CIV ENG] An airtight water tank in which air is compressed to exert pressure on the water and which is used in connection with a water distribution system. { 'presh-ər ,tæŋk }
- pressure tap** [ENG] A small perpendicular hole in the wall of a pressurized, fluid-containing pipe or vessel; used for connection of pressure-sensitive elements for the measurement of static pressures. Also known as piezometer opening; static pressure tap. { 'presh-ər ,tæp }
- pressure tendency** [METEOROL] The character and amount of atmospheric pressure change for a 3-hour or other specified period ending at the time of observation. Also known as barometric tendency. { 'presh-ər ,ten-dən-sē }
- pressure-tendency chart** See pressure-change chart. { 'presh-ər ,ten-dən-sē ,tʃɑːrt }
- pressure tensor** [PL PHYS] A tensor which plays a role in magnetohydrodynamics analogous to that of the pressure in ordinary fluid mechanics. { 'presh-ər ,ten-sər }
- pressure thrust** [AERO ENG] In rocketry, the product of the cross-sectional area of the exhaust jet leaving the nozzle exit and the difference between the exhaust pressure and the ambient pressure. { 'presh-ər ,θrəst }
- pressure topography** See height pattern. { 'presh-ər tɒ,pæɡ-rəfē }
- pressure transducer** [ENG] An instrument component that detects a fluid pressure and produces an electrical signal related to the pressure. Also known as electrical pressure transducer. { 'presh-ər træn-zɜːsər }
- pressure-travel curve** [MECH] Curve showing pressure plotted against the travel of the projectile within the bore of the weapon. { 'presh-ər 'trav-əl ,kərv }
- pressure traverse** [PETRO ENG] Measurement of reservoir pressures at progressive depths. { 'presh-ər trə,vərs }
- pressure treater** [CHEM ENG] Any chemical treating device operated at higher-than-atmospheric pressure, as in the chemical and petroleum industries. { 'presh-ər ,trēd-ər }